

CLAIMS

1. A process for making a starch product comprising adding to a starch medium a non-maltogenic exoamylase that is capable of hydrolysing starch by
5 cleaving off one or more linear maltooligosaccharides, predominantly consisting of from four to eight D-glucopyranosyl units, from the non-reducing ends of the side chains of amylopectin.
2. A process according to claim 1, wherein the starch medium comprises flour,
10 wherein the flour is wheat flour or rye flour or mixtures thereof.
3. A process according to claim 2 wherein the non-maltogenic exoamylase is added in an amount which is in the range of 50 to 100,000 units per kg flour, preferably 100 to 50,000 units per kg flour, more preferably in an amount which is
15 in the range of 200 to 20,000 units per kg flour.
4. A process according to any of claims 1-3, wherein the non-maltogenic exoamylase has an endoamylase activity of less than 0.5 endoamylase units (EAU) per unit of exoamylase activity, preferably wherein the non-maltogenic
20 exoamylase has an endoamylase activity of less than 0.05 endoamylase units (EAU) per unit of exoamylase activity, more preferably wherein the non-maltogenic exoamylase has an endoamylase activity of less than 0.01 endoamylase units (EAU) per unit of exoamylase activity.
- 25 5. A process according to any of claims 1-4, wherein the non-maltogenic exoamylase is further characterised in that the non-maltogenic exoamylase has the ability in a waxy maize starch incubation test to yield hydrolysis product(s) that would consist of one or more linear malto-oligosaccharides of from two to ten D-glucopyranosyl units and optionally glucose, such that at least 60%, preferably at
30 least 70%, more preferably at least 80% and most preferably at least 85% by weight of the said hydrolysis product(s) would consist of linear maltooligosaccharides of from three to ten D-glucopyranosyl units, preferably of

linear maltooligosaccharides consisting of from four to eight D-glucopyranosyl units.

6. A process according to claim 5, wherein at least 60%, preferably at least 70%, more preferably at least 80%, and most preferably at least 85% of the hydrolysis product is maltotetraose, maltopentaose, maltohexaose, maltoheptaose or maltooctaose.

7. A process according to claim 6, wherein at least 60%, preferably at least 70%, more preferably at least 80%, and most preferably at least 85% of the hydrolysis product is maltotetraose.

8. A process according to claim 7 wherein the enzyme is obtainable from *P. saccharophila* or is a functional equivalent thereof.

9. A process according to claim 6, wherein at least 60%, preferably at least 70%, more preferably at least 80%, and most preferably at least 85% of the hydrolysis product is maltohexaose.

10. A process according to claim 9 wherein the enzyme is obtainable from *Bacillus clausii* or is a functional equivalent thereof.

11. A process according to claim 10 wherein the enzyme has a molecular weight of about 101,000 Da (as estimated by sodium dodecyl sulphate polyacrylamide electrophoresis).

12. A process according to claim 10 or claim 11 wherein the enzyme has an optimum of activity at pH 9.5 and 55°C.

13. A process according to any one of the preceding claims wherein the starch product is a dough.

14. A process according to any one of the preceding claims wherein the starch product is a baked dough.

15. A process according to any one of the preceding claims wherein the starch product is for the preparation of a baked farinaceous bread product.

16. A process according to any one of the preceding claims wherein the starch product is baked.

17. A baked product obtained by the process according to claim 16.

18. An improver composition for a dough; wherein the composition comprises a non-maltogenic exoamylase as defined in any one of claims 1 to 17, and at least one further dough ingredient or dough additive.

19. A non-maltogenic exoamylase obtainable from *Bacillus clausii*, or a functional equivalent thereof, wherein the enzyme has a molecular weight of about 101,000 Da (as estimated by sodium dodecyl sulphate polyacrylamide electrophoresis) and/or the enzyme has an optimum of activity at pH 9.5 and 55°C.

20. A non-maltogenic exoamylase according to claim 19 wherein the non-maltogenic exoamylase is further characterised in that the non-maltogenic exoamylase has the ability in a waxy maize starch incubation test to yield hydrolysis product(s) that would consist of one or more linear maltooligosaccharides of from two to ten D-glucopyranosyl units and optionally glucose; such that at least 60%, preferably at least 70%, more preferably at least 80% and most preferably at least 85% by weight of the said hydrolysis product(s) would consist of linear maltooligosaccharides of from three to ten D-glucopyranosyl units, preferably of linear maltooligosaccharides consisting of from four to eight D-glucopyranosyl units.

21. Use of a non-maltogenic exoamylase in a starch product to retard the staling of the starch product.
22. A process, improver composition, enzyme, or use substantially as
5 described herein and with reference to claim 1.